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WASHINGTON, D. C.

Agricultural Engineering.

Agricultural engineers in cooperative activities. By Arnold P. Yerkes. Agricultural Engineering. v. 19, no. 6. June, 1938. p.253-254, 257.

Agriculture.

Annual report of the agricultural experiment station fiscal year 1936-37. University of Puerto Rico. College of agriculture and mechanic arts. Agricultural experiment station, Rio Piedras, P.R. San Juan, P.R., Bureau of supplies, printing, and transportation, 1938. 167p.

Arizona's changing agriculture: Forty eighth annual report for the year ending June 30, 1937. Tucson, Arizona, University of Arizona. College of agriculture. Agricultural experiment station. 1937. 101p.

Fiftieth annual report Rhode Island state college agricultural experiment station. Kingston, R.I., 1938. 44p. Rhode Island state college. Agricultural experiment station. Contribution 520.

Making farm crops more available for industry. By L. F. Livingston. Agricultural Engineering. v. 19, no. 6. June, 1938. p. 278. Summary: 1. Farming is a business, not merely a vocation, and it must be treated as any other business. 2. Research, with special emphasis on chemurgic research, is main answer to subject, but agricultural engineering research, and what I like to call 'pilot plant research,' must keep pace with other departments in order to secure chemurgic success. 3. Research has scarcely scratched surface of possibilities even now evident to those informed on subject. 4. Capital must have confidence in future, to be willing to risk investing in long-term research. 5. States expecting to benefit from chemurgic factories should study their fiscal and tax conditions and compare them with their neighbors.

The 1938 program of the Farm security administration. By W.W. Alexander. In Proceedings. Fifty-first annual convention Association of land-grant colleges and universities. Washington, D.C., November 14-17, 1937. New Haven, Conn., Quinnipiack press, inc., 1938. p.126-128.

Report of the Hawaii agricultural experiment station, 1937. Honolulu, Hawaii, University of Hawaii, 1938. 117p.

Seventy sixth annual report of the Secretary of the State board of agriculture of the state of Michigan and fiftieth annual report of the Experiment station from July 1, 1936 to June 30, 1937. Lansing, Mich., 1937. 123p.

Agriculture. (Cont'd)

Toward farm security. By A.G. Black. Washington, U.S. Govt. print. off., 1938. 23p. U.S. Department of Agriculture. Bureau of agricultural economics. Miscellaneous publication no. 308.

Wheat and the Agricultural adjustment act of 1938. Washington, U.S. Govt. print. off., 1938. 8p. U.S. Department of agriculture. Agricultural adjustment administration. Commodity information series - Wheat 2.

Air Conditioning.

Air conditioning for the home or store and its relation to the coal industry. By W.B. Hughes. University of Illinois. Engineering experiment station. Circular no. 31. Urbana, Ill., 1938. p.57-84.

Fundamentals of drying and air conditioning. By E.R. Gilliland. Industrial & Engineering Chemistry. v. 30, no. 5. May, 1938. p. 506-514. Basic equations for rate of heat and mass transfer are reviewed. Mass transfer coefficients are considered in light of film and turbulent-core concepts as well as on basis of empirical dimensional equations. When data on rate of evaporation of liquids into turbulent air stream in wetted wall tower are correlated on basis of film and turbulent-core concept, they indicate that resistance of core and film are of same order of magnitude, ratio of the two depending on diffusivity of system in question. Data on simultaneous transfer of heat and mass are considered on basis of same concept, and lead to analogy between heat and mass transfer, which does not involve inclusion of analogy to fluid friction. In case of drying, problem is complicated by lack of knowledge of mechanism of fluid motion through solids. Use of diffusion equation in this last case is questionable, especially where driving force causing diffusion is based on weight of liquid per unit weight of solid, because movement of fluid may be in opposite direction to that indicated by drying force in these units.

Pressure losses resulting from changes in cross sectional area in air ducts. By A.P. Kratz and J.R. Fellows. Urbana, Ill., 1938. 58p. Illinois. Engineering experiment station. Bulletin no. 300.

Study of summer cooling in the research residence using a small capacity mechanical condensing unit. By A.P. Kratz, S.Konz, M.K. Fahnestock and E.L. Broderick. Heating, Piping & Air Conditioning. v. 10, no. 6. June, 1938. p.421-427. Part 2.

Alcohol Fuel.

Alky-gas must win or lose on merit, chemurgists told. By M.G. Van Voorhis. National Petroleum News. v. 30, no. 17. April 27, 1938. p. 17, 19.

Alcohol Fuel. (Cont'd)

Sees agrol fuel as boon to Texas. National Petroleum News. v. 30, no. 22. June 1, 1938. p. 25. Use of grain alcohol in gasoline blends will tend to prolong life of existing oil fields and, petroleum industry would find itself amply rewarded for comparatively small loss of motor fuel by improved farmer buying power reflected in his purchase of more gasoline.

Technical characteristics of alcohol-gasoline blends. New York City, Committee on motor fuels American petroleum institute, 1938. 15p.

2000 Agrol stations. Farm Chemurgic Journal. v. 1, no. 2. March, 1938. p. 75-76. Establishment of Atchison Agrol plant on full time commercial basis has been announced. Power-alcohol blends are now on sale at approximately 2,000 automobile service stations in eight mid-western states. Research has included all phases of development from selection of suitable farm crops to be used in alcohol manufacture to extensive scientific studies on superior grades of motor fuel produced by blending anhydrous alcohol with gasoline.

Associations.

American Society of Agricultural Engineers meets at Asilomar. Implement Record. v. 35, no. 6. June, 1938. p. 14, 16.

British Agricultural Engineers organize. Agricultural Engineering. v. 19, no. 6. June, 1938. p. 284. One objective of Institution is to be advancement of agricultural engineering education in Great Britain to compare with standards of training in this field available in other countries, and to provide British trained agricultural engineers for British agricultural engineering positions. Another stated objective is to investigate mechanical needs of farmer so that research and manufacture may be linked together to benefit of every interest concerned, and of Nation as a whole. It is also contemplated that Institution will "provide an authoritative body with whom Government could consult on appropriate technical questions, especially in emergency."

Proceedings. Fifty-first annual convention Association of land-grant colleges and universities. Washington, D.C. November 14-17, 1937. New Haven, Conn., Quinnipiack press, inc., 1938. 374p.

Report of the National research council for the year July 1, 1936-June 30, 1937. Washington, U.S. Govt. print. off., 1938. 81p. Reprinted from the annual report of the National academy of sciences for the year July 1, 1936-June 30, 1937.

Barns.

New angles for Corn Belt barns. Prairie Farmer. v. 110, no. 7. March 26, 1938. p. 7.

New barns for new conditions. By Earl D. Anderson. Lumber & Building Material Dealer. v. 7, no. 4. May, 1938. p. 5-6, 13.

Building Materials.

Compound wood for building may bring low-cost homes. Popular Mechanics Magazine. v. 69, no. 3. March, 1938. p. 344. Uniform in weight, strength and color, it is the produce of large-capacity plant which recently began operations. Compounding of wood is term applied to process of peeling veneers to given thicknesses, drying them and gluing them together.

New materials for poultry houses. Agricultural Leaders' Digest. v. 19, no. 4. May, 1936. p. 54-55.

Newsprint cores used to build "log" houses. Popular Mechanics Magazine. v. 69, no. 4. April, 1938. p. 504. Cores, whose composition mainly is paper and glue, are treated with linseed oil and then painted, preventing moisture from penetrating them.

Chemistry, Technical

Chemistry and you. By Dr. C.M.A. Stine. Popular Mechanics Magazine. v. 69, no. 3. March, 1938. p. 329. Part 4.

Cold storage plants.

Agricultural marketing in India. Report on the cold storage and transport of perishable produce in Delhi. Delhi, Manager of publications, 1937. 24p. India. Office of the agricultural marketing adviser. Marketing series no. 2.

Cold storage of eggs and poultry. By T.W. Heitz. Washington, U.S. Govt. print. off., 1938. 51p. U.S. Department of agriculture. Circular no. 73.

Concrete.

Concrete: its maintenance and repair. By R.B. Young. The bulletin Hydro-Electric Power Commission of Ontario. v. 25, no. 5. May, 1938. p. 167-179. Paintings. Transparent waterproofing. Iron treatments. Bituminous waterproofing. Bituminous mortars. Caulking. Grouting. Patching and plastering. Pneumatically applied mortar. Replacing with cast concrete. Preparation for repairs. Eliminating shrinkage.

Shall we use concrete? By Walter E. Burton. Better Homes & Gardens. v. 16, no. 7. March, 1938. p. 22-23, 63.

Conservation of Resources.

1938 Agricultural conservation program-Delaware. Washington, U.S. Govt. print. off., 1938. 18p. U.S. Department of agriculture. Agricultural adjustment administration. ECR-201-Del.

1938 Agricultural conservation program-Kentucky. Washington, U.S. Govt. print. off., 1938. 23p. U.S. Department of agriculture. Agricultural adjustment administration. ECR-201-Ky.

1938 Agricultural conservation program-Maryland. Washington, U.S. Govt. print. off., 1938. 18p. U.S. Department of agriculture. Agricultural adjustment administration. ECR-201-Md.

1938 Agricultural conservation program-North Carolina. Washington, U.S. Govt. print. off., 1938. 24p. U.S. Department of agriculture. Agricultural adjustment administration. ECR-201-N.C.

1938 Agricultural conservation program-Tennessee. Washington, U.S. Govt. print. off., 1938. 21p. U.S. Department of agriculture. Agricultural adjustment administration. ECR-201-Tenn.

1938 Agricultural conservation program-Virginia. Washington, U.S. Govt. print. off., 1938. 24p. U.S. Department of agriculture. Agricultural adjustment administration. ECR-201-Va.

1938 Agricultural conservation program-West Virginia. Washington, U.S. Govt. print. off., 1938. 18p. U.S. Department of agriculture. Agricultural adjustment administration. ECR-201-W.Va.

Thirst on the land; A plea for water conservation for the benefit of man and wild life. By William Vogt. New York, National association of Audubon societies, 1937. 32p. Bibliography, p.31-32.

Corrosion.

Corrosion of well casing. In Arizona's changing agriculture. Forty-eighth annual report for the year ending June 30, 1937. University of Arizona. College of agriculture. Agricultural experiment station. p.18.

Cotton.

Classification of cotton. Prepared by the Bureau of Agricultural economics. Washington, U.S. Govt. print. off., 1938. 54p. U.S. Department of agriculture. Miscellaneous publication no. 310.

Cotton marketing in the irrigated Southwest. By J.W. Wright and J.R. Kennedy. Washington, D.C., Bureau of agricultural economics, 1938. 73p. Mimeographed.

Cotton Gins and Ginning.

Care and repair of cotton gin brushes. By V.L. Stedronsky and A.J. Johnson. Washington, D.C., U.S. Govt. print. off., 1938, 14p. U.S. Department of Agriculture. Circular no. 467.

Dams.

Compacting cohesionless material. By Richards M. Strohl. Engineering News-Record. v. 120, no. 24. June 16, 1938. p. 850-853. Field tests of compaction methods for building rolled-fill dam of sand gave valuable data on rolling procedure and moisture content.

Construction of Alamogordo dam. By Carl J. Nielsen. Reclamation Era. v. 28, no. 6. June, 1938. p. 112-115.

Dam building on difficult rock. Engineering News-Record. v. 120, no. 23. June 9, 1938. p. 807-811. Construction of Conchas Dam requires ingenious methods to support sliding shale abutments, but work on 235-foot high concrete structure is progressing rapidly on the South Canadian River in New Mexico.

Design of rock-fill dams: Discussion. ByRalph J. Reed, F.J. Sanger and C.S. Jarvis. Proceedings of American Society of Civil Engineers. v. 64, no. 6. June, 1938. p. 1196-1201.

Log crib diversion dam constructed on Upper Snake River project. By H.A. Parker. Reclamation Era. v. 28, no. 6. June, 1938. p. 104-105, 111.

Drainage.

Physical and financial aspects of public drainage enterprises. By Lewis A. Jones. Agricultural Engineering. v. 19, no. 6. June 1938. p. 250, 252. Summary: 1. In all drainage enterprises, including those in sound financial condition, as well as those in financial difficulties, maintenance of improvements is essential if full benefit is to be received from monies expended. Such work must be done annually, not periodically, if earning capacity of land is to be maintained. 2. In a majority of states, amendments to existing laws, providing for maintenance work are needed. 3. In planning for rehabilitation of drainage enterprises in financial difficulties, plan of refinancing should be based upon ability of land to pay, and should include provisions for rehabilitation and annual maintenance of drainage improvements.

Electricity on the Farm.

Calculating electrical power for machinery. Rural Electrification & Electro-Farming. v. 13, no. 155. April, 1938. p. 205. Gives data as to approximate power required for different machines and appliances mostly found on mixed or dairy farm.

Electricity on the Farm.

Coordinated rural electrification activities in the State of New York. By J.P. Schaenzer. C.R.E.A. News Letter. no. 17. June, 1938. p.4. Rural electrification statistics.

Home-made electrical brooders. Rural Electrification News. v. 3, no. 9. May, 1938. p. 19-20.

Home-made electricity. By George A. Towns. Michigan Farmer. v. 189, no. 8. April 9, 1938. p. 5. Demonstrates use of small stream for development of necessary electric power.

New things in farm electric appliances. By J.P. Schaenzer. Agricultural Engineering. v. 19, no. 6. June, 1938. p. 259-260.

Pasteurizing milk by use of electricity. By Ben D. Moses. Rural Electrification News. v. 3, no. 9. May, 1938. p. 14-15.

Rural electrification. By G.V. Harrap. Electrical Review. v.122, no. 3159. June 10, 1938. p. 842. It is suggested that rural electrification should be considered as part of the greater subject of farm building, and electrical education of farmer is urged. Question of subsidies is touched upon.

Rural electrification in Kentucky. By James B. Kelley. Agricultural Leaders' Digest. v. 19, no. 4. May, 1938. p. 11-12.

Where does rural electrification fit in the electrical industry? An address by M.O. Troy presented at Rural electrification training conference, Nela Park, Cleveland, Ohio, April 27, 28, 29, 1938. Schenectady, N.Y., General Electric co., n.d. 4 p. Processed.

Engines.

Voltage regulation on rural distributors. Electrical Times. v. 93, no. 2433. June 9, 1938. p. 864. New type of tail-end booster of low capital cost -- offering special advantages.

Erosion Control.

Bodenabschwemmung in der landwirtschaft und ihre bekampfung durch kulturtechnische massnahmen. H. Schildknecht. Schweizerische landwirtschaftliche monatshefte. no. 1. 1935. p.22-28. Soil erosion in agriculture and its control through the technical cultural method of precaution.

Long view of the wind-erosion problem. R.I. Kimmell. In Report of the Kansas state board of agriculture for the quarter ending March, 1938. p.84-94.

Erosion Control.

Soil conservation service program for 1938. By D.S. Myer. In Proceedings. Fifty-first annual convention Association of land-grant colleges and universities. Washington, D.C. November 14-17, 1937. New Haven, Conn., Quinnipiack press, inc., 1938. p.124-126.

Soil erosion - a present day farm problem. By John P. Jones. American Agriculturist. v. 135, no. 9. April 23, 1938. p. 1, 11.

Stable channels in erodible materials. By Radha Krishna Khanna. Indian Engineering. v. 103, no. 5. May, 1938. p. 168-170.

Stability of earthen channels. By A.N. Wilson. Indian Engineering. v. 103, no. 5. May, 1938. p. 158.

Extension.

1937 report cooperative extension work in agriculture and home economics. Gainesville, Fla., University of Florida. Agricultural extension service, 1937. 98p.

Possibilities for cooperation between the United States department of agriculture and the states in issuing summary publications on important agricultural problems. By Emil Truog. In Proceedings. Fifty-first annual convention Association of land-grant colleges and universities. Washington, D.C., November 14-17, 1937. New Haven, Conn., Quinnipiack press, inc., 1938. p.160-162.

Possibilities of cooperation between the United States department of agriculture and the states in summary publications. By J.T. Jardine. In Proceedings. Fifty-first annual convention Association of land-grant colleges and universities. Washington, D.C., November 14-17, 1937. New Haven, Conn., Quinnipiack press, inc., 1938. p. 163-165.

Farm Buildings.

Build well and wisely. Oregon Farmer. v. 61, no. 9. April 28, 1938. p.3.

Farm building surveys in Wisconsin, Kansas, Georgia and Illinois. By J.R. Dodge. Washington, U.S. Govt. print. off., 1938. 16p. U.S. Department of agriculture. Miscellaneous publication no. 311.

More storage space in farm buildings. By H.H. Musselman. Michigan Farmer. v. 189, no. 9. April 23, 1938. p. 3, 14.

Rural community buildings. By D.E. Lindstrom, W.A. Foster, and M.G. Fuller. Urbana, Ill., 1937. 58p. University of Illinois. Agricultural experiment station and Extension service in agriculture and home economics. Circular 470.

Farmhouses.

Improving Florida rural homes. By V.P. Moore. In 1937 report co-operative extension work in agriculture and home economics. Gainesville, Fla., University of Florida. Agricultural extension service, 1937. p. 80-82.

Farm Machinery and Equipment.

Beet sugar harvesting machinery. Utah Farmer. v. 58, no. 21. June 10, 1938. p. 8. United States beet sugar association has announced grant of $70,000 to University of California to finance a three-year program to develop labor-saving machinery for use in the production of sugar beets. Reduction of farm cost of growing beets, and general stabilization of agricultural phases of the industry are goals to be sought.

Exporting of U.S. farm implements. By J.S. Duncan. Farm Implement News. v. 59, no. 12. June 16, 1938. p. 28-29.

Farm machinery. By Frank H. Slade. Rural Electrification. v. 13, no. 156. May, 1938. p. 226-228.

Federal Trade Commission's summary of first part of its report on implement industry. Farm Implement News. v. 59, no. 12. June 16, 1938. p. 20, 25, 36. Summary is presented in full text without change.

Machine plants and cultivates carrots. Market Growers Journal. v. 62, no. 10. May 15, 1938. p. 300.

Mechanized farming. Indian Engineering. v. 103, no. 5. May, 1938. p. 146-147.

Prof. Davidson's answer. Farm Machinery & Equipment. no. 1852. April 15, 1938. p. 7-9. Relative to cost of farm machinery.

Selection of farm machinery. By H.H. DeLong. South Dakota Agriculturist. v. 1, no. 5. April, 1938. p. 4.

Feed Grinders and Grinding.

Proposed method for determining uniformity of ground feeds. By E.A. Silver. Agricultural Engineering. v. 19, no. 6. June, 1938. p. 258.

Fences, Electric.

Electric fence. By L.W. Neubauer. Northwest Farm Equipment Journal. v. 52, no. 5. May, 1938. p. 32.

Fertilizer Placement.

Do a good job when drilling fertilizer. By R.L. Cook. Michigan Farmer. v. 189, no. 8. April 9, 1938. p. 3, 22. Table 1. For calibrating grain drills to apply fertilizer for small grains or row crops.

Flax.

Flax; a bibliography. Compiled by D.W. Graf. Washington,D.C., Bureau of Agricultural Engineering, 1938. 7p. Typewritten.

Floods and Flood Control.

Flood. By George Waite. Implement Record. v. 35, no. 6. June, 1938. p. 18-19. Tulare Lake, dry for 16 years, suddenly revives to ruin $4,000,000 crop.

Flood control in Orange County ready for early start. Engineering News-Record. v. 120, no. 25. June 23, 1938. p. 883-884. Southern California project just starting, including eight earth-fill dams, to cost $15,248,000.

The flood problem. In a report to the Governor, the Hon. Herbert H. Lehman by the New York state planning council for the Division of State planning in the Executive department. p. 119-122.

Flood-protection data. Progress report of the committee: Discussion. By Charles F. Ruff, Samuel A. Weakley, and Howard M. Turner. Proceedings of American Society of Civil Engineers. v. 64, no. 6. June, 1938. p. 1296-1303.

Floods recede on Yellow river. Engineering News-Record. v. 120, no. 25. June 23, 1938. p. 864. Decline in levels of early flood reported as water spreads over wide area on river delta.

Los Angeles flood report recommends channels. Engineering News-Record. v. 120, no. 24. June 16, 1938. p. 830. Recommendations for adequate channels to facilitate runoff and recommendation against further construction of mountain reservoirs are made. Maintains that accumulation of silt in basins, with consequent loss of water storage space, renders them economically unfeasible. Report finds that pipe and wire, piling and wire, and pneumatically placed concrete channel protection are unsatisfactory for swift water or on curves.

National aspects of flood control; A symposium Discussion. By W.F. Uhl and others. Proceedings of the American Society of Civil Engineers. v. 64, no. 5. May, 1938. p. 912-927.

Ohio and Mississippi river floods of January-February 1937. By Bennett Swenson. Washington, U.S. Govt. print. off., 1938. 55p. U.S. Department of agriculture. Weather bureau. Monthly weather review supplement no. 37.

U.S. will carry all flood costs. Engineering News-Record. v. 120, no. 25. June 23, 1938. p. 862. All major flood control structures federally financed in new flood control bill.

Flow of Water.

Annotated bibliography on the flow of water around bends. By D.L. Yarnell. Washington, D.C., Bureau of agricultural engineering, 1936. 52p. Mimeographed.

Electrical measurement of water flow in pipe line. By C.O. von Dannenberg. Factory Management and Maintenance. v. 96, no. 3. March, 1938. p. 138, 142.

Flow measurement by pipe bends. Power Plant Engineering. v. 42, no. 6. June, 1938. p. 392.

Fluid-mechanics laboratory, and its place in undergraduate mechanical-engineering training. By John R. Weske. Mechanical Engineering. v. 60, no. 4. April, 1938. p. 309-314. Requisites: (1) Fluid-mechanics laboratory should include a collection of demonstration objects and apparatus for use in connection with lectures. Their design should be such that they can be handled by student, and wherever feasible, operated. They should include apparatus for demonstration of fluid flow. (2) Laboratory further should have equipment for application of all existing methods of experimental investigation of fluid flow that are of practical importance in engineering work. (3) In case laboratory time is provided in curriculum for fluid mechanics, a variety of laboratory tests should be performed under student leadership, assisted by direction of instructor. (4) Modern laboratory should resemble an industrial development and design department in this respect, namely, it should be a place where, in addition to tasks of professional routine, are found engineering problems that are still unsolved.

Measurement of the flow of water. In Arizona's changing agriculture. Forty-eighth annual report for the year ending June 30, 1937. University of Arizona. College of agriculture. Agricultural experiment station. p. 19.

Flumes.

Laboratory investigation of flume traction and transportation: Discussion. By E.W. Lane and Joe W. Johnson. Proceedings of American Society of Civil Engineers. v. 64, no. 6. June, 1938. p. 1209-1216.

Fuels.

Papers presented at the short course in coal utilization held at the University of Illinois May 25-27, 1937. Urbana, Ill., 1938. 200p. University of Illinois. Engineering experiment station. Circular no. 31.

Technique of burning fuel oil and natural gas. By F.G. Philo. Mechanical Engineering. v. 60, no. 4. April, 1938. p. 315-320.

Heating.

Domestic heating plants. By P.E. Mohn. University of Illinois. Engineering experiment station. Circular no. 31. Urbana, Ill., 1938. p.7-21.

Text book on heat. A.W. Barton. New York, Longmans, Green and Co., 1935. 378p.

Hotbeds.

Growing vegetable seedlings. By E.B. Tussing, J.H. Boyd and I.P. Blauser. Columbus, Ohio, 1938. 31p. Ohio state university. Agricultural college extension service. Bulletin no. 103.

Hydraulics.

Hydraulics; a text on practical fluid mechanics. By R.L. Daugherty. 4th ed. New York, McGraw-Hill book company, inc., 1937. 460p.

Observed effects of geometric distortion in hydraulic models. By Kenneth D. Nichols. Proceedings of American Society of Civil Engineers. v. 64, no. 6. June, 1938. p. 1081-1102. In this paper studies of specific models are summarized and analyzed for effects of geometric distortion in behavior of models. Comparative data are presented for undistorted and distorted model of same prototype showing effects of slope distortion and depth distortion upon velocity conversion factors from model to prototype. Data are presented for other models showing effects on bed formations of variations in bed materials (including light-weight materials), and slope and slope and depth distortion. Selected studies of flood control and river navigation in Mississippi River System are summarized and analyzed. Brief reference is also made to observations, pertinent to effects of geometric distortion, in many other hydraulic studies. Analysis of data showed that a lesser degree of distortion may be required in movable bed models if light-weight materials are used to simulate stream bed. Analysis also outlined representative methods of compensating for distortion and effecting hydraulic similarity in specific details when over-all similarity cannot be expected. On basis of this study recommendations are made concerning use, design, and operation of distorted models.

Hydroponics.

"Miracle plants" grow in liquid. By Polly Merriman. Popular Mechanics Magazine. v. 69, no. 4. April, 1938. p. 594-596.

Insulation.

Insulating window cuts heat losses of casement sash. Popular Mechanics Magazine. v. 69, no. 3. March, 1938. p. 342. Dead air space of one inch between casement and insulating window sharply reduces condensation and frosting under ordinary conditions. Frame equipped with weathering seal covers entire casement frame, providing efficient insulation against heat loss.

Irrigation.

Analysis of border irrigation. By M. R. Lewis and W.E. Milne. Agricultural Engineering. v. 19, no. 6. June, 1938. p.267-272. Border method of irrigation consists essentially in division of field by low, flat levees into series of strips, each of which is flooded separately.

Art of irrigation. International Sugar Journal. v. 40, no. 472. April, 1938. p. 131- 132, 133.

Bombay irrigation plans. Indian Engineering. v. 103, no. 5. May, 1938. p. 149.

Control points. Indian Engineering. v. 103, no. 5. May, 1938. p. 171-173. Problem in maintenance.

Deep well irrigation. By I.P. Tikiob. New Agriculture. v. 20, no. 9. June, 1938. p.6-7.

Field methods of determining consumptive use of water. By H.F. Blaney. Paper presented at the annual meeting of the American society of agricultural engineers, Asilomar, Pacific Grove, Calif., June 29, 1938. 14 p. Bibliography: p.13-14. Mimeographed.

Indian irrigation development. Indian Engineering. v. 103, no. 5. May, 1938. p.162. Discussion of the Haveli project.

Irrigation in foreign countries - Don Martin project, Mexico. Reclamation Era. v. 28, no. 6. June, 1938. p. 117.

Irrigation work affected by bankruptcy act. Engineering News-Record. v. 120, no. 24. June 16, 1938. p. 853.

Limitaciones de la Irrigacion por Pozos. La Vida Agricola. v. 15, no.174. May 10, 1938. p. 367, 369-370. Limitations of well irrigation.

Modern irrigation. By George D. Clyde. Utah Farmer. v. 58, no. 21. June 10, 1938. p. 3, 13. Table 1: Tabulation showing irrigated areas, value of irrigated farms and investments in irrigation enterprises, and total diversions to irrigated farms in acre-feet.

Putting water where you want it. Through the leaves. v. 26, no. 3. May 1938. p.94-97. Charts show soil depths from which water is taken by beets, potatoes, alfalfa.

Use of water by native vegetation. By A.A. Young. Paper presented at the annual meeting of the American society of agricultural engineers, Asilomar, Pacific Grove, Calif., June 29, 1938. 11p. Mimeographed. Bibliography p.11.

Water transmission and distribution for irrigation. By H.D. Bruhn. Agricultural Engineering. v. 19, no. 6. June, 1938. p.264-266.

Land Utilization.

Land-use planning or land-use policy in the United States. By S. von Ciracy-Wantrup. Agricultural Engineering. v. 19, no. 6. June, 1938. p.261-263.

Land utilization. In Fiftieth annual report Rhode Island state college agricultural experiment station. Kingston, R.I., 1938. p.40-41.

Our land policy today. By L.C. Gray. Land Policy Review. v. 1, no.1. May-June, 1938. p.3-7.

Recent migration into the Pacific northwest; Land problems, requirements in land reclamation, need for coordinated programs, necessary land development and settlement policies. Portland, Oregon, Pacific Northwest regional planning commission, 1938. 38p. Mimeographed.

Miscellaneous.

The audience be -- pleased! By S. Marion Tucker. Mechanical Engineering. v. 60, no. 4. April, 1938. p. 300. We don't know how badly we speak.

Basic principles of soil-cement mixtures. By Frank T. Sheets and Miles D. Catton. Engineering News-Record. v. 120, no. 25. June 23, 1938. p. 869-875. Laboratory studies uncover basic principles for producing consistent, predictable results in processing soil-cement mixtures for light traffic roads.

Efficient laundry methods. By Esther Pond. Pullman, Washington, 1938. 15p. State college of Washington. Extension service. Extension bulletin 243.

Farmer looks at transportation. By Emil Schram. Delivered at the annual meeting of the Traffic club of Wilmington, Delaware, February 10, 1938. n.p., n.d. 13p. Mimeographed.

Report to the governor, the Hon. Herbert H. Lehman by the New York state planning council for the Division of state planning in the executive department for the period ending June 30, 1937. n.p. 1937. 145 p.

Motor Fuel.

Auto runs on acetylene gas generated in trunk. Popular Mechanics Magazine. v. 69, no. 4. April, 1938. p.484. Acetylene gas, generated in a trunk on the rear, operates automobile fitted with special carburetor invented in Italy. Trunk contains granular calcium carbide that is used to form the gas. Carburetion is automatic, and engine performs well on gas, having powerful stroke. Gas burns cleanly, leaving little residue. Invention may solve problem of Italy's dependency upon other nations for motor fuel.

Motor Fuel. (Cont'd)

Characteristics of tractor fuels. By J.B. Torrance. Northwest Farm Equipment Journal. v. 52, no. 5. May, 1938. p.27.

Fuel experience from Nebraska tests. By Carlton L. Zink. Agricultural Engineering. v. 19, no. 6. June, 1938. p. 255-257.

Low cost tractors seen as boom to farm fuel market. National Petroleum News. v. 30, no. 16. April 20, 1938. p.10.

Motors, Electric

Electric motors for the farm. Schenectady, N.Y. n.d. 11 p.

Ohio River

Economics of Ohio river improvement: Discussion. By C.L. Hall. Proceedings of American Society of Civil Engineers. v.64, no.6. June, 1938. p.1204-1208.

Paints and Painting.

Repainting the paing-neglected house. By F.L. Browne. Consumers' Digest. v. 3, no. 6. June, 1938. p.29-39.

What can be done to make paint maintenance more successful. By F.L. Browne. Paint, Oil & Chemical Review. v. 100, no. 8. April 14, 1938. p.9-11, 31-35. As way to help to correct this situation, it is suggested system of grading or classifying paints be adopted. Proposed classification would be administered by appropriate trade association. Paint would be identified both by maker's brand and by association's symbols of type and division.

Plows.

Plowing six-feet deep. Engineering News-Record. v. 120, no. 25. June 23, 1938. p.886. Used in southern California. Although forerunners of present plows have been in operation about five years, it is only within the last year that their design and construction have been standardized. In their present form plows have central member consisting of welded steel box to which several parts are attached. Through this box tractive effort is transmitted, and on it are mounted operating machanism, wheels and plow proper. Complete control is effected by a single lever located on rear tractor and operated by tractor driver. This lever controls a hydraulic pump (also mounted on the tractor) from which high pressure hose lines lead to operating ram on plow. Two wheels, mounted on single axle, are so connected that wheel on left can swing upward to follow ground surface, while right wheel follows previously plowed furrow, lifting only enough to compensate for natural back-fall. urrow width, in all three sizes, is $2\frac{1}{2}$ feet.

Plywood.

Farm uses of plywood. By Henry Giese. American Builder. v. 59, no. 12. December, 1937. p. 76-78.

Laboratory tests on structural plywood. By Harry A. Williams. Engineering News-Record. v. 120, no. 24. June 16, 1938. p.855-858. Strength determinations on thick Douglas fir plywood and plywood joints, with and without timber connectors, under various load conditions.

New prefabricated plywood house of Forest Products Laboratory. By R.F. Luxford. American Builder. v. 59, no. 12. December, 1937. p.62-65. Gives details of construction.

Plywood, the modern material. American Builder. v.59, no. 12. December, 1937. p.42-45.

Residential construction with plywood. By Oscar Fisher. Architectural Record. v.83, no.6. June, 1938. p.75-79. Part 2: Shop-fabricated systems.

Power Development.

River to lift itself over a mountain. Popular Mechanics Magazine. v.69, no.3. March, 1938. p.321-323, 157A-158A. Pumped up side of a mountain and drawn by gravity through tunnel and conduit to a power-generating plant miles away water from the Colorado river will produce electricity to run the pumping station at the beginning of startling cycle.

Power Farming.

Power farming and labor displacement in the cotton belt, 1937. Part 1. Northwest Texas. By Paul S. Taylor. Monthly Labor Review. v.46, no. 3. March, 1938. p.595-607. There has been much talk about labor displacement in future when mechanical cotton picker is perfected. Fact is that heavy displacement of farmers and laborers, as result of increasing mechanization, is already in progress in several important cotton areas. Cause, however, is not picker machine, but tractor. This study emphasizes power farming, which recently has become disturbing both to farmers and farm laborers, many of whom are exposed to displacement. Use of tractors, particularly the all-purpose, pneumatic-tired type, is spreading. It is accelerating profound changes in rural structure, some of which had already received impetus from other causes such as drought and depression. Particular attention was given to section of Texas Panhandle and Mississippi and Arkansas deltas where change is most evident. Reconnaissance was extended over southwestern Oklahoma, Black Wax Prairie of Texas, and portions of Georgia and Carolinas, in order to obtain some idea of manner and extent to which changes so plainly evident in Panhandle and delta sections are affecting other cotton areas. Emphasis here is wholly upon areas of change.

Power Farming. (Cont'd)

Sources of farm power. By William Boss. St. Paul, Minn., 1938. 1p. University of Minnesota. Agricultural extension division. Agricultural engineering news letter. no. 75.

Pressure Measurements.

Horizontal pressures on retaining walls due to concentrated surface loads. By M.G. Spangler. Ames, Iowa, 1938. 79p. Iowa state college. Engineering experiment station. Bulletin 140.

Public Works.

Engineering economics and public works - a symposium: Discussion. By H.K. Barrows, Harry A. Wiersema, J.D. Galloway, E.S. Martin and K. Bert Hirashima. Proceedings of American Society of Civil Engineers. v.64, no.6. June, 1938. p.1265-1281.

Pumps and Pumping.

Centrifugal pumps for Colorado River aqueduct. By Robert L. Daugherty. Mechanical Engineering. v.60, no.4. April, 1938. p.295-299.

Cost and relative economy of power for deep-well pumping from diesel engines, natural gas engines, and electric motors. In 48th annual report. Arizona Agricultural experiment station. Tucson, Ariz., 1937. p.21-23.

Eloy pumping district. In Arizona's changing agriculture. Forty-eighth annual report for the year ending June 30, 1937. University of Arizona. College of agriculture. Agricultural experiment station. p.15-18.

Low pressure systems. By Arthur King. Implement Record. v.35, no.6. June, 1938. p.20.

Pumping and return flow in the South Platte valley. W.E. Code. Through the Leaves. v. 26, no. 3. May 1938. p.87-89.

Tests of diesel-engine-driven pumping plants. In Arizona's changing agriculture. Forty-eighth annual report for the year ending June 30, 1937. University of Arizona. College of agriculture. Agricultural experiment station. p.20-21.

University of California pump-testing laboratory. By Richard G. Folsom. Mechanical Engineering. v.60, no.4. April, 1938, p.301-305. Work has been planned to study types of pumping, develop quantitative methods of predicting pump-performance characteristics, and discover or improve basic design procedure, Although water is fluid generally considered, program includes studies with compressible and incompressible fluids, colloidal solutions, mixtures of small solid particles in suspension in fluids, and other substances. Results obtained to

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date have been published, and include studies on hydraulic ram, jet pump, air lift, and propeller pump, and problems associated with centrifugal pumps, such as disk friction, hydraulic thrust, leakage, and kindred subjects. Work of laboratories will include: 1. Research in field of deep-well and propeller pumps. 2. Analysis of laboratory and field methods of testing, development of test standards, and calibration of test instruments. 3. Tests of motors, bearings and other auxiliary equipment. 4. Tests of manufacturers' types. 5. Tests on specific pumps and pump accessories and equipment.

Rainfall and Run-off.

Effect of the degree of slope and rainfall characteristics on runoff and soil erosion. By J.H. Neal. Columbia, Mo., 1938. 47p. University of Missouri. Agricultural experiment station. Research bulletin 280. Bibliography. p.46-47.

Relation of rainfall and run-off to cost of sewers. By John A. Rousculp. Proceedings of American Society of Civil Engineers. v.64, no. 6. June, 1938. p.1153-1165. Preliminary design of storm sewer systems often requires number of laborious studies involving various plans and perhaps various combinations of two design factors - rainfall frequency rates and run-off percentage. It is purpose of paper to describe development of method, using time-saving charts, based on study of relative costs of system, which can be valuable aid in preliminary design work. Relative costs of storm sewers, as studied herein for various combinations of design factors, are based on application of such combinations to assumed district. Selection of this assumed district was based upon study of concentration of area of a number of actual districts. Rational method of estimating run-off was used in computing various cases. Explanation is made of methods of determining assumed district, and sample computation is given to illustrate method of determining run-off, Q, for one of the cases. Results of run-off Q-computations for all cases are plotted on charts showing run-off, Q, for corresponding area. These charts are used as basis for computing relative sewer-capacity requirements in connection with study of cost relation. Discussion of results is given, together with examples suggesting some practical uses of study of this nature. Writer does not intend that charts, as developed, should cover full range of design stipulations that may be encountered, or be of widespread applicability. Rather, it is hoped that development, as method, may be helpful to other engineers in making similar studies to satisfy various special requirements.

Surface run-off - yield from small water sheds Missouri slope area. By Oscar Becker. Bismarck, N.D., North Dakota state planning board, 1938. 5p. Mimeographed.

Rammed Earth Construction.

Rammed earth for farm building walls. By Raeburn Test. South Dakota Agriculturist. v. 1, no. 5. April, 1938. p.5.

Reclamation.

Colorado-Big Thompson trans-mountain water-diversion project. By C.H.C. Braden and H.N. Goodell. Explosives Engineer. v.16, no. 6. June, 1938. p.169-176.

Regional planning. Part VI - The Rio Grande basin in Colorado, New Mexico, and Texas 1936-1937. By National resources committee. Washington, U.S. Govt. print. off., 1938. 2v. v.1 - Text. v.2-Maps.

Refrigerants.

Properties desired for an ideal refrigerant. By W.L. Knaus. Refrigerating Engineering. v. 35, no. 6. June, 1938. p.392-394, 428-429.

Refrigeration.

Refrigerated food industries. By David L. Fiske. Refrigerating Engineering. v. 35, no. 6. June, 1938. p. 387-391, 403. What statistics have to offer--a broad survey.

Refrigeration on the vegetable farm. By Paul Work. Market Growers Journal. v. 62, no. 10. May 15, 1938. p. 283-285, 288-289.

Refrigerator Lockers.

Eat fresh meat when you want it. By Francis Flood. Farmer-Stockman. v. 51, no. 7. April 1, 1938. p. 3, 24. Simplifies home butchering job, and it makes available better quality meat than is carried at most meat markets, and at lower prices.

Ohio locker storage finds extensive promotion plan obtains renters. Air Conditioning and Refrigeration News. v. 24, no. 6. June 8, 1938. p. 11. Selling points: 1. Luxury of fresh meats and vegetables year around. 2. Advantages of butchering in fall and early winter months, and advantage of being able to butcher livestock as need arises rather than waiting for favorable market. 3. Low rates for processing. 4. Low cost of locker rental.

Storage locker service expands. By K.F. Warner. Agricultural Situation. v. 22, no. 6. June, 1938. p. 20. Eight years ago the cold storage locker plant was practically unknown. Today, plants of this type, renting cold storage compartments to individuals, are reported in operation in 27 states. Numbers per state vary from less than 10 in New York and Pennsylvania to 300 in Washington.

Refrigerators.

Building and operating the home freezing unit. By H. J. Dana and R.N. Miller. Pullman, Washington, 1938. 16p. State college of Washington. Engineering experiment station. Engineering bulletin no. 5..

Refrigerators.

Home freezing unit; building and operating. By R.N. Miller and H.J. Dana. Pullman, Wash., 1938. 15p. State college of Washington. Extension service. Extension bulletin 241.

Research.

Trends in agricultural research. By H.J. Patterson. In Proceedings. Fifty-first annual convention Association of land-grant colleges and universities. Washington, D.C. November 14-17, 1937. New Haven, Conn., Quinnipiack press, inc., 1938. p.67-72.

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Relining an elevated storage reservoir with gunits. By Roger W. Esty. Journal of the New England Water Works Association. v. 52, no. 1. March, 1938. p. 30-57. Paper on reconstructing and relining of storage reservoir with Gunite divided into two parts, namely: first, history, telling why reservoir was originally constructed, and secondly, procedure of relining structure with Gunite.

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Silt.

Measurement of debris-laden stream flow with critical-depth flumes: Discussion. By R.L. Stoker and J.C. Stevens. Proceedings of American Society of Civil Engineers. v. 64, no. 6. June, 1938. p.1183-1186.

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Snow surveying. By Carl Rohwer. The Pyramid of Sigma Tau. v. 23, no. 2. March, 1938. p. 5-11.

Soils.

Graphical representation of mechanical analyses of soils: Discussion. By E.W. Lane, F.J. Sanger and F. Knapp. Proceedings of American Society of Civil Engineers. v. 64, no. 6. June, 1938. p.1217-1221.

Liming Ohio soils. By Earl Jones. Columbus, Ohio, 1938. 24p. Ohio state university. Agricultural extension service. Bulletin no. 177.

Practical application of soil mechanics - a symposium: Discussion. By A. Streiff. Proceedings of American Society of Civil Engineers. v. 64, no. 6. June, 1938. p. 1191-1195.

Soils. (Cont'd)

Soil survey by stabilometer. By E.C. Seibert and L.A. Palmer. Engineering News-Record. v. 120, no. 23. June 9, 1938. p. 813-814. Soil characteristics measured in terms of pressure on drydock and cofferdam walls by stabilometer and direct-shear test apparatus.

Solar Heat.

Figuring solar heat gains of buildings. By William Goodman. Heating, Piping and Air Conditioning. v. 10, no. 6. June, 1938. p. 391-394. Presentation of new series of tables for estimating the solar heat gains of buildings in calculating air conditioning loads. Use of data for walls and roofs is explained.

Storage of Fruits and Vegetables.

Decade of Michigan cooperative elevators. By W.O. Hedrick. East Lansing, Mich., 1938. 95p. Michigan state college. Agricultural experiment station. Special bulletin no. 291.

Refrigerated storages for Indiana orchards. By Clarence E. Baker. Refrigerating Engineering. v. 35, no. 6. June, 1938. p.404-408. Part II.

Storage and transportation of Arkansas rice. By O.J. Hall and T.W. Douglas. Fayetteville, Ark., 1938. 40p. University of Arkansas. College of agriculture. Agricultural experiment station. Bulletin no. 355.

Wheat storage in the ever normal granary. This bulletin was prepared by representatives of the Bureaus of Agricultural economics, Agricultural engineering, Biological survey, Entomology and Plant Quarantine, and Plant industry, and the Agricultural adjustment administration in the Department of agriculture, with the assistance of engineers and agronomists of the State agricultural colleges of Illinois, Indiana, Iowa, Kansas, Maryland, Ohio and Oregon. Washington, U.S. Govt. print. off., 1938. 24p. U.S. Department of agriculture. Agricultural adjustment administration. Commodity information series - Wheat-1.

Surveying.

Acreage determined by weight. Scientific American. v. 158, no. 5. May, 1938. p. 287. Novel method of ascertaining acreages of crops and other vegetation, by using aerial maps, was employed by Bureau of Agricultural Engineering in surveying basin of Rio Grande in Colorado New Mexico, and Western Texas for National Resources Committee. Practically all basin was mapped on aerial photo static prints having scale of two inches to the mile in the more open country, and four inches in more congested areas in New Mexico. On these prints fields were readily identified and numbered or colored according to classification scheme. To obtain totals of areas so identified field maps were traced on clear celluloid sheets, which were then cut up along boundary lines. Pieces for each classification were weighed, in groups, on laboratory balance-scales. These weights were converted into

acreages by comparison with previously ascertained weights of templates or accurately dimensioned unit samples of the celluloid. Pattern sheet consisting of template of heavy celluloid, representing 1,000 acres at two-inch scale, and 250 acres at four-inch scale, was cut out and carefully trimmed to exactness with a file, fine drafting scales being used to determine dimensions. One of these test blocks was cut for each field sheet. Direct check on weighing, and thus on summation of areas, was made for each field sheet. Before being divided, piece of celluloid covering field sheet was carefully weighed. When all areas and test block had been broken out, fragments remaining also were carefully weighed. Sum of weights of scraps, plus group-pieces, plus test block, had to equal weight of original piece of celluloid.

Leveling in North Carolina. By N.F. Braaten and C.E. McCombs. Washington, U.S. Govt. print. off., 1938. 414p. U.S. Coast and geodetic survey. Special publication no. 210.

Spirit leveling in Kansas 1896-1935. By J.G. Staack. Washington, U.S. Govt. print. off., 1938. 88p. U.S. Geological survey. Bulletin 889.

Spirit leveling in Massachusetts 1922-35. By J.G. Staack. Washington, U.S. Govt. print. off., 1937. 156p. U.S. Geological survey. Bulletin 882.

Triangulation in Wyoming (1927 datum) By C.N. Claire. Washington, U.S. govt. print. off., 1938. 227p. U.S. Coast and geodetic survey. Special publication no. 212.

Swine Houses and Equipment.

Housing the hog. By James Lacey. Hoard's Dairyman. v. 83. no. 6. March 25, 1938. p. 168, 183.

Self feeder for hogs. By G.B. Rothwell. Revised by E.B. Fraser. Ottawa, Canada, 1938. 7p. Dominion of Canada. Department of Agriculture. Circular no. 129. Revision special circular 15.

Temperatures.

Effect of barn temperatures on milk production. Heating & Ventilating. v. 35, no. 3. March, 1938. p. 35. Discussion of report by M.A.R. Kelley and I.W.Rupel.

Meteorological phenomena affecting low temperatures on experimental bog. By J.H. Neal. Agricultural Engineering. v. 19, no. 6. June, 1938. p. 273-277.

Termites.

Control of termites in buildings. By T.H. Parks. Columbus, Ohio, 1938. 8p. Ohio state university. Agricultural college extension service. Bulletin no. 142.

Terracing.

A complete water-disposal plan using vegetation in terrace outlets. By John M. Downing. Agricultural Engineering. v. 19, no. 5. May, 1938. p. 211-212.

Insular project no. 2. Relative efficiency of terraces as soil erosion prevention. By M.L. Vicente. Division of agricultural engineering. In Annual report of the agricultural experiment station fiscal year 1936-37. University of Puerto Rice.... San Juan, P.R., Bureau of supplies, printing and transportation, 1938. p. 144.

Terracing for soil and water conservation. By C.L. Hamilton. Washington, U.S. Govt. print. off., 1938. 60p. U.S. Department of agriculture. Farmers' bulletin no. 1789.

What we have learned about terrace spacing at Guthrie, Oklahoma. B.A.E. Brandt and G.W. Musgrave. Soil Conservation. v. 3, no. 11. May, 1938. p. 267-269. Examination of data on soil loss in tons per acre from six terraces over 5 years was made. Totals indicate that soil loss is greater from 5 foot terraces than from 2 foot, but when this difference is compared with variability in results from terraces of same spacing it hardly seems significant. This situation may indicate three distinct answers as follows: First, that terraces of different vertical spacings are equally effective in controlling erosion; second, that method of measuring loss reflects only behavior of terrace outlets which were alike in this experiment, and not soil movement or erosion throughout whole terrace area; or, third, that method of measuring soil loss is so inaccurate as to increase unduly variability of results from a given terrace. If either of first two answers is correct, a change in design should determine which within a few years' time. If, however, there is bias due to inaccuracy of determination of soil loss, no amount of experimentation with same or different design will correct it.

Tires.

A.S.A.E. sponsored research project gets under way. Agricultural Engineering. v. 19, no. 5. May, 1938. p. 225, 230. Research study into use of pneumatic tires for transport wheels for agricultural equipment. Eugene E. McKibben of Iowa Station will be in direct charge of work. Outline of objectives for research is as follows: 1. Determination of influence of following physical factors upon performance and action of transport wheels equipped with pneumatic tires: (a) Load. (b) Speed. (c) Rim diameter. (d) Tire cross-section. (e) Wheel arrangement, single, dual, tandem, etc. (f) Rolling resistance. (g) Impact. (h) Soil type (series and texture). (i) Soil condition (tilth, vegetation, moisture, etc. 2. Investigation of effect of pneumatic tires on cost of field and road transportation considering such influences as (a) Reduced rolling resistance. (b) Increased field speeds. (c) Life of equipment through protection from shock. (d) Extent of use. (e) Interchangeability of tire equipment between machines. (f) Life of tires. 3. Establishment of minimum tire requirements of various agricultural machines and vehicles under different operating conditions, and of relative merits of different combinations of wheel arrangement, tire dimesions, and air pressure for each situation. 4. Development of more practicable methods of characterizing soils with respect to resistance offered to rolling of transport wheels.

Tires. (Cont'd)

Automobile tires. Consumers' Digest. v. 3, no. 5. May, 1938. p. 12-21.

Dual tire equipment for various model tractors. Farm Implement News. v. 59, no. 11. June 2, 1938. p. 21.

Inflation table for rubber tractor tires. Arizona Producer. v. 17, no. 5. May 15, 1938. p. 7.

Proper inflation essential. Better Farm Equipment and Methods. v. 10, no. 8. April, 1938. p. 7.

Report on pneumatic tyred carts and other equipment in use on the University of Reading farm, at Sonning-on-Thames. By Robert Rae. London, British Rubber Publicity Association, 1938. 16p. Rubber and agriculture. Special series Bulletin A.

Steel wheels or tires for farm machines? Iowa Agriculturist. v. 38, no. 9. March, 1938. p. 20, 22. Discussion of studies by E.G. McKibben.

They are going to find out about tires. Farm Implement News. v. 59, no. 10. May 19, 1938. p. 30. Research project dealing with pneumatic tires for transport wheels for farm machines and vehicles, sponsored by American Society of Agricultural Engineers, and supported in part by farm equipment, tire and rim, and wheel manufacturers has been inaugurated at Iowa Agricultural Experiment Station, which institution provides part of the financial support for the enterprise. Researches outlined deal specifically with rolling resistance of loads carried on rigid and pneumatic tired wheels, protection of machine or vehicle from shock, and relation between tire and soil. As far as practicable data secured will be translated into economic or dollar and cents basis.

What fleet operators should know about tires. By J.E. Hale. S.A.E. Journal. v. 42, no. 3. March, 1938. p. 101-117. Non-technical review of up-to-date survey of lines of tires needed in all types and classes of fleet operation. Author describes and catalogs principle forms of tire failures, then reviews characteristics of fundamental lines of tires available at present time. Next, attempt it made to classify different types of fleet operation so that definite recommendations can be made as to most appropriate tire equipment for these vehicles. Types of tire trouble most commonly encountered in each group are brought out with suggestions on how to avoid them. Followed by section giving advice on care of tires. Paper concludes with brief survey of worthwhile facts about repairs and retreading. Appendix contains load-inflation tables which are most widely used.

Traction.

Insular project no. 1. A study of traction in different kinds of soils using oxen. By M.L. Vincente. Division of agricultural engineering. In annual report of the agricultural experiment station fiscal year 1936-37. University of Puerto Rico.... San Juan, P.R., Bureau of supplies, printing and transportation, 1938. p. 144.